Improving LAV III Survivability

by Stanley C. Crist

It can be convincingly argued that the LAV III is not the best available armored vehicle with which to equip the Interim Brigade Combat Teams (IBCTs). Nevertheless, since the decision has been made to acquire LAV III variants for this purpose, attention should now be given to maximizing the combat effectiveness and survivability of this family of vehicles.

There are two areas of concern that do not seem to have been adequately addressed to date — armor and firepower.

The standard appliqué armor on the LAV III does not protect against hand-held antiarmor weapons like the RPG-7 — the primary threat in urban combat. The author argues for additional protection from kits that would withstand attack from RPG-type HEAT warheads (Photo: GM Defense)

ARMOR

Much publicity has been given to the fact that the standard appliqué armor of the LAV III provides protection against heavy machine gun (HMG) fire. While this information is indeed true, it is also rather irrelevant. The greatest threat in urban combat is not from 14.5mm machine guns, it is from anti-armor weapons like the RPG-7, which have shaped charge warheads that can punch through the LAV's hull as if it were made of tissue paper.

The German manufacturer of the LAV's standard armor appliqué has reportedly also developed bolt-on panels that do protect against penetrations by shoulder-fired HEAT munitions. The easiest way to improve LAV III survivability would be to simply discard the relatively useless 14.5mm armor and replace it with RPG panels, but for transport by C-130, the thickness of the RPG armor would almost certainly preclude it from being attached to the sides of the vehicle until after exiting the aircraft. But it should be possible to have RPG armor bolted onto the front and rear of the vehicle. (Of course, this would not pose a problem for transportation by C-5 or C-17, as the larger cargo bays of these aircraft would permit all-around installation of RPG armor panels on the LAV III.)

FIREPOWER

Armament for the LAV III Infantry Carrier Vehicle (ICV) is a single machine gun, mounted on — and fired from — a Remote Weapons Station (RWS). The RWS will undoubtedly be a useful feature for engaging enemy personnel who are armed only with rifle-caliber weapons, but it is totally inadequate for neutralizing RPG gunners.

The U.S should learn a lesson from the Israeli Defense Force (IDF), which has more experience in mechanized operations on the urban battleground than any other contemporary army. IDF infantry vehicles typically mount three or four machine guns, thereby giving the crews the means to simultaneously engage multiple, widely spaced targets. This capability can be crucial to survivability in the urban environment, where RPG teams can be expected to make coordinated attacks on intruding armored vehicles. A vehicle crew that is armed with only a single machine gun cannot respond effectively to a threat of this nature.

The U.S. Army learned this lesson at least twice in past conflicts, but seems to have a short institutional memory on the subject, as it reverts to a solitary machine gun for ICV armament. During WWII, half-track armored personnel carriers were often equipped with one or two .30 caliber machine guns in addition to the standard .50 caliber Browning. Later, during the Vietnam War, the Armored Cavalry Assault Vehicle (ACAV) also was armed with a cupola-mounted "fifty" and a pintle-mounted "seven-

Installing additional M240 machine guns adjacent to the squad leader's hatch and both troop hatches would enable the ICV crew to give immediate return fire on multiple RPG teams. This technique has been successful in the Israelis' recent battles and was a common addition to the M113s in the Vietnam war. (Photo: FN Manufacturing Inc.)

six-deuce" at each side of the cargo hatch.

The same concept should be applied to the LAV III infantry vehicle by installing a 7.62mm M240 machine gun adjacent to the squad leader's hatch and each of the two troop hatches. Simple pintle mounts would be the easiest and least expensive method of installation, but would provide the smallest engagement arc. Elbow-type pintle mounts — such as were used on the ACAV — would allow a greater area to be covered by each machine gunner, and therefore would be preferred to the basic pintle mount. The optimum approach would be to install skate mounts like that surrounding the loader's hatch on M1-series tanks, but this would require a redesign of the top rear of the ICV, adding to the cost and possibly causing a delay in fielding the LAV III.

SUMMARY

Considering the current emphasis on urban warfare, and the losses of men and machines to the ubiquitous RPG-7 in places like Somalia, Lebanon, and Chechnya, bolt-on armor that protects against handheld anti-armor weapons is absolutely vital. In addition to this "passive" protection, however, installing pintle-mounted 7.62mm machine guns would not only provide the means for "active" self-defense, but would also greatly increase the offensive capability of the ICV.

Incorporating these changes would substantially improve the effectiveness and survivability of the LAV III and IBCT personnel. Unfortunately, the record is not promising. Bolt-on armor was developed for the M113A3, but never fielded, and the multiple machine guns of the WWII half-track and the Vietnam-era ACAV were deleted in the aftermath of those conflicts. However, one can hope...

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